Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Implementation of Sections 3(n) and 332 of the Communications Act	)	Gen. Docket No. 93-252
	)	
Regulatory Treatment of Mobile Services	)	

COMMENTS OF
AMERICAN MOBILE SATELLITE CORPORATION

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Summary

American Mobile Satellite Corporation urges the Commission not to impose any limits on the amount of satellite spectrum that a CMRS provider may access.

As the Commission acknowledged in its Further NPRM, satellite spectrum is unique. The principal difference between satellite spectrum and spectrum used for ground-based systems is that satellite spectrum is subject to an international frequency coordination process that typically results in less spectrum being available to the domestic licensee. This coordination process is ongoing, even after the system is launched and is in operation. In addition, some satellite spectrum is subject to unique encumbrances, such as that which requires AMSC to provide priority and preemptive access to aviation and maritime safety users. Finally, satellite spectrum usage involves both mobile links and feeder links. The spectrum caps that the Commission discusses for terrestrial spectrum would be ruinous for satellite systems if feeder link frequencies were included. This is particularly the case for the proposed non-geostationary satellite systems, which use a large amount of spectrum for feeder links.

A market analysis shows no justification for imposing spectrum caps on satellite spectrum. No CMRS provider is using satellite spectrum to exert market power and there is no evidence that any CMRS provider will ever be able to do so. There are and will be several satellite systems that compete for customers, and satellite systems generally face substantial competition from

terrestrial services. The nature of satellite service as a "gap-filler" in rural and remote areas makes satellite systems inherently subject to competition from terrestrial system operators (such as RSA cellular operators) that have access to ample spectrum to provide service whenever they decide it is in their best interest to do so.

AMSC's own pending applications for additional spectrum demonstrate the harm that could be caused by imposing an arbitrary cap on satellite spectrum. In each of its applications, AMSC has shown that it can put spectrum to use efficiently without adversely affecting competition. By denying AMSC access to this spectrum, the only result would be less service to the American public.

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American Mobile Satellite Corporation ("AMSC") hereby comments on the Further Notice of Proposed Rule Making ("Further NPRM") issued in the above-referenced proceeding.[1/] In the Further NPRM, the Commission among other things seeks comments on whether providers of services that have been classified as Commercial Mobile Radio Service ("CMRS"), including possibly satellite-based CMRS providers, should be subject to a limit on the amount of spectrum for which they may be licensed.

AMSC, the corporate parent of the U.S. Mobile Satellite Service ("MSS") system licensee, urges the Commission not to place any restrictions on the amount of satellite spectrum that a CMRS provider may use. Spectrum that is used for satellite service is not the same as spectrum that is used for terrestrial service, the principal difference being that satellite spectrum licensed for domestic use is always subject to an international process that further reduces access by the domestic licensee. Moreover, satellite spectrum is not being used now to exert market power by CMRS providers and it is unlikely that satellite spectrum will ever be so used. Thus, AMSC urges the Commission

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[1/] FCC 94-100 (May 20, 1994).

to continue its current practice of examining each request for satellite spectrum on its merits, rather than attempting to create rigid structural rules that cannot be justified on the basis of the record evidence.

Background

AMSC is the parent corporation of AMSC Subsidiary Corporation, which has been licensed by the FCC to construct, launch and operate the U.S. MSS-AMS(R)S system.[2/] AMSC's satellite system will make mobile communications available for the first time to rural and remote areas of the United States that have been bypassed by the wireless revolution. The first satellite and the ground segment are under construction, and the system is expected to be operational in 1995. Using state-of-the-art technology and a satellite that is more powerful than any MSS satellite launched previously, the system will be able to offer approximately two-thousand voice channels nationwide.[3/]

2/ Memorandum Opinion, Order and Authorization, 4 FCC Rcd 6041 (1989); Final Decision on Remand, 7 FCC Rcd 266 (1992); aff'd sub nom. Aeronautical Radio, Inc. v. FCC, 983 F.2d 275 (1993). AMS(R)S is a type of aeronautical communications related to safety and regularity of flight (e.g., air traffic control). AMSC is required to provide priority and preemptive access for AMS(R)S communications within its authorized frequencies (1544-1559/1645.5-1660.5 MHz), which could force AMSC's other customers to lose access to all or most of their spectrum during air traffic emergencies.

In addition to the 30 megahertz of spectrum for mobile links, AMSC also is authorized to operate feederlinks in 200 megahertz of Ku-band spectrum.

3/ Since 1992, AMSC has been offering a data-only service using Inmarsat space segment leased from Comsat. AMSC's interim service competes with a wide range of terrestrial mobile radio services and with a satellite service offered by Qualcomm, which uses a C-band fixed satellite. In addition,

The $650 million cost of constructing and launching AMSC's system has been financed almost entirely by equity investments, by subsidiaries of such telecommunications industry leaders as Hughes Communications, Inc., McCaw Cellular Communications, Inc., MTel Technologies Corporation and Singapore Telecommunications Ltd. and by the general public.[4/]

The development of MSS has been hampered substantially by the shortage of spectrum available for the service and the need for international sharing of what limited spectrum there is. The Commission's decision to require all the applicants in the upper L-band MSS proceeding to form a single consortium was based largely on this spectrum shortage.[5/] Subsequently, the spectrum shortage has worsened, as more foreign systems attempt to use the limited spectrum that is available. At present, more than thirty

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at present there are satellite-based maritime mobile services being offered using C-band and Ku-band spectrum, including capacity obtained from Panamsat.

4/ AMSC was originally comprised of eight of the original 12 applicants who filed for MSS authorizations in 1985 and were subsequently required to form a single consortium to hold the MSS license. Many of the companies affiliated with the original consortium members had extensive experience as providers of common carrier mobile communications, including cellular companies like McCaw, MCCA American Satellite Service Corporation (now Mtel), Metromedia, Inc., and Associated Communications Corp., and satellite companies such as Hughes.

5/ Second Report and Order, 2 FCC Rcd 485 (1987). The decision to have only one licensee led the Commission in turn to require the MSS licensee to serve as a common carrier and provide open access to its space segment by earth station operators. Id. at 486. The FCC has classified AMSC as subject streamlined regulation. Id. at 490.

systems are attempting to coordinate use of 30 MHz of L-band MSS spectrum.[6/]

The international frequency coordination process is dictated by the Radio Regulations of the International Telecommunication Union ("ITU"), which require member countries to file a notice with the agency for any system that requires interference protection. International Radio Regulations, Articles 11, 13 (1990 ed.). After notice is filed with the agency, other national administrations with existing or proposed systems are entitled to request bilateral negotiations to "coordinate" the use of the spectrum by their respective systems, a particularly crucial process for MSS because of the relatively greater potential for harmful interference by other systems. Id.; see also Resolution 46. This obligation to coordinate continues indefinitely, even after a system is operational, as new foreign systems are proposed that may cause or receive interference. Id.

The Commission initially committed to provide the U.S. system with access to 20 MHz of spectrum for each of three separate satellites, but the international frequency coordination process has prevented this from developing. Therefore, to even approach the capacity of such a spectrum assignment, AMSC has been forced to seek access to spectrum in the lower L-band (1530-

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6/ There are several foreign MSS systems with footprints covering the United States (e.g., Telesat Mobile, Inc. (Canada), Solidaridad (Mexico), Marathon and Volna (Russian Federation) and Inmarsat). The Commission, however, has determined that these systems will not be permitted to operate in the U.S., in order to preserve spectrum for the U.S. domestic system.

1544/1626.5-1645.5 MHz) for its first satellite and in other bands for follow-on satellites.[7/]

Using the 1.6/2.4 GHz band MSS spectrum, the Commission has been pressing forward with the licensing of additional MSS systems. The Commission recently proposed to license as many as five new MSS systems in the 1.6/2.4 GHz bands.[8/] The proponents of these non-geostationary on "Big LEO" systems propose to provide thousands of channels of voice service in the United

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7/ In the case of its lower L-band application, however, existing use of the band means that at most only one or two megahertz of spectrum is available for a U.S. MSS system, certainly not enough for a stand-alone system, and the spectrum may not be used by an MSS system proposing to use non-geostationary satellites. See Consolidated Opposition and Reply of AMSC Subsidiary Corporation, File No. 59-DSS-MP/ML-93 (December 22, 1993). AMSC has shown that it can add this small but important amount of spectrum to its system for approximately $2.3 million and that adding the bands will give the United States increased negotiating flexibility during international coordination of the upper L-band. Id.

Similarly, in the case of its application for the 1610-1626.5/2483.5-2500 MHz bands, AMSC has shown that the cost of its adding the spectrum to its satellites is minimal relative to the cost incurred to build and operate a stand-alone system, and AMSC has proposed to operate using Code Division Multiple Access ("CDMA") in the bands, a technology which permits sharing with the systems of other applicants that also propose to use CDMA systems. Comments of AMSC Subsidiary Corporation, CC Docket No. 92-166 (May 5, 1994).

A new subsidiary of AMSC, Personal Communications Satellite Corporation ("PCSAT"), filed an application on April 7, 1994 to construct an MSS system in the 1970-1990/2160-2180 MHz bands, in order to provide additional capacity to meet the expected U.S. demand for MSS.

8/ Notice of Proposed Rulemaking, CC Docket No. 92-166 (February 18, 1994). These entities are also more than 2500 megahertz of feederlink spectrum, including Ellipsat which requires 1000 megahertz for its feederlinks.

States and around the world.[9/] The Commission also is expected this year to license at least two non-voice, non-geostationary satellite systems that will provide international and domestic position location and data services in the VHF bands.[10/]

Additional MSS spectrum may be made available in the relatively near future. Three entities, PCSAT, Celsat, Inc. and TRW, Inc., all have petitioned the Commission to begin a rulemaking to allocate domestically the 2 GHz bands allocated to MSS at WARC-92.[11/] The FCC itself recently stated its intention to initiate a proceeding to investigate additional MSS allocations and to pursue additional allocations at WRC-95.[12/] The Commission also recently has upgraded to primary status the MSS allocation at 19.7-20.2/29.5-30.0 GHz.[13/]

AMSC has been in the forefront of the effort to secure additional spectrum for MSS, both domestically and internationally. The domestic effort includes the advocacy of "generic" allocations and the allocation to MSS of several new

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9/ The Commission also has authorized two companies to operate mobile terminals in the 1.6/2.4 GHz MSS bands for data and position location services using leased capacity on a GTE transponder. Mobile Datacom Corporation, File No. 814-DSE-P/L-93; Newcomb Communications, Inc., 8 FCC Rcd 3631 (1993).

10/ See Report and Order, 8 FCC Rcd 8450 (1993).

11/ PCSAT Petition for Rulemaking (April 7, 1994); Celsat, Inc., Amendment to Petition for Rulemaking, RM-7927 (July 7, 1993); TRW, Inc. Petition for Rulemaking (December 8, 1993). PCSAT and Celsat filed applications on April 7, 1994 and April 8, 1994, respectively, to construct satellite systems in the bands.

12/ Memorandum Opinion and Order, GEN Docket 90-314, FCC 94-144 (June 13, 1994), at para. 97.

13/ News Release, Report No. DC-2614 (June 15, 1994).

bands, including the 1.6/2.4 GHz MSS bands.[14/] Recently, an AMSC subsidiary, PCSAT, petitioned for a domestic allocation to MSS in the Emerging Technology Band. AMSC also helped put together a coalition of MSS interests to work with the Commission within the PCS allocation proceeding to preserve spectrum for MSS. Internationally, AMSC and the companies that formed AMSC have been extremely active in supporting U.S. efforts to secure additional MSS allocations, beginning with the 1987 World Administrative Radio Conference ("WARC") on Mobile Services and continuing with the current preparatory efforts for the 1995 and 1997 World Radiocommunications Conferences.[15/]

The Further NPRM focuses largely on the transition to CMRS of what had been Private Radio services. In addition to its attention to transition issues, however, the Commission also seeks comment on whether, in order to prevent a service provider from acquiring excessive market power, the Commission should impose a limit, or "cap," on the amount of spectrum that an entity may use to provide CMRS. Further NPRM, para. 89. The Commission proposes that, if it concludes that a cap is needed, the limit should be comparable to that imposed on broadband PCS and PCS-cellular aggregation, which is 40 MHz, with some upward adjustment possible. Id., para. 93.

[14/] See e.g. Comments of AMSC, Gen. Docket 89-554 (December 3, 1990; April 12, 1991); Comments of AMSC, ET Docket No. 93-198 (July 19, 1993).

[15/] AMSC also has been very active in the U.S. preparations for the 1994 plenipotentiary meeting in Kyoto, the CITEL meeting in Ottawa (CITEL is a telecommunications policy group established within the Organization of American States); and the industry working groups established by the FCC to develop positions for WRC-95.

Although the discussion focuses on terrestrial CMRS, the Further NPRM also specifically seeks comment on the treatment of satellite spectrum. In that regard, the Commission seeks comment on: (i) the general issue of whether to include satellite spectrum in a CMRS spectrum cap; (ii) the application of a spectrum cap to earth station licensees are well as space segment operators; (iii) the inclusion of CMRS providers that use fixed satellite bands; (iv) the measurement of satellite spectrum for purposes of a cap and whether to subject satellite CMRS providers to a cap only after completion of international frequency coordination; and (v) how to define satellite service areas. Id., paras. 97-98. The Commission also seeks comments on attribution standards to use in the event that spectrum aggregation limits are adopted. Id., paras. 101-102.

Discussion

I. Satellite Spectrum Is Not Comparable to Terrestrial CMRS Spectrum

As the Commission notes in its Further NPRM, there are important differences between satellite spectrum and spectrum that is used for more typical CMRS. The biggest difference is that the amount of spectrum that the FCC assigns to a satellite licensee is the maximum amount of spectrum that the licensee ultimately may access; the actual amount of spectrum that the licensee is able to access depends on the international frequency coordination process and, at least in AMSC's experience, is less than the amount assigned to it by the Commission. In the case of AMSC's system, the international frequency coordination process

is likely to require the U.S. system to cede a substantial amount of its assigned spectrum to foreign systems. Instead of AMSC gaining access to the 28 MHz that the Commission assigned it for each of three satellites, AMSC will be fortunate to gain access to 20 MHz for one satellite.

The Commission suggests that it might be possible to solve this problem by waiting for the resolution of the coordination process before imposing any spectrum cap on a satellite CMRS provider. This suggested approach, however, overlooks the fact that the international frequency coordination process is ongoing and subjects the satellite system to a perpetual requirement that it negotiate additional sharing arrangements with new satellite systems. Thus, satellite systems are never certain that they will be able to continue to access all the spectrum that has been coordinated for them.

Another difference is that satellite spectrum does not offer the same capacity as terrestrial spectrum. While it may appear that a nationwide assignment of 20 MHz of spectrum is substantial, the nature of satellite systems does not permit the same frequency reuse as is possible with a terrestrial system. Thus, for example AMSC's first generation satellite system, using state-of-the-art technology and high-powered satellites, nonetheless will be limited to approximately two thousand channels of voice service. As such, AMSC's system clearly will not have the same impact on mobile service competition as would be provided by a comparable nationwide assignment to terrestrial service.

Furthermore, AMSC's obligation to provide priority and preemptive access for aviation safety communications, and the uncertainty of where, when and how much of that spectrum will be needed for aviation safety further complicates AMSC's spectrum predicament and forces the company to look elsewhere for additional spectrum. AMSC would like to provide non-preemptible service to all customers who demand such service; and, depending on aeronautical safety requirements, AMSC may have to migrate non-aeronautical customers to other bands.

Finally, satellite systems are different because they require large amounts of spectrum for feeder links. The Further NPRM does not attempt to address how such spectrum (potentially hundreds of megahertz) would possibly be factored into a spectrum cap.

II. Satellite CMRS Providers Do Not and Will Not Have Market Power

The only basis for a spectrum cap is to deter a licensee from establishing market power and there are no satellite CMRS providers that have market power or a reasonable prospect of attaining market power. At present, there are no satellite CMRS providers. The only entities providing mobile service by satellite are AMSC and Qualcomm, both of which offer services that are classified as Private Mobile Radio Service, due to the absence of any interconnection to the Public Switched Telephone Network.

The service that AMSC offers beginning in 1995 will be classified as CMRS, but it would be presumptuous to characterize

AMSC as having market power now or a reasonable prospect of attaining market power in the future. As an initial matter, after investing $650 million in the construction and launch of its new system, AMSC will be making every effort possible to attract customers and develop the market for its new service. From the start, AMSC faces substantial competition from well-established terrestrial services. Cellular telephone systems, for example, already provide service in virtually every metropolitan and rural service area in the country. These systems are continually expanding, as are the well-established air-ground telephone service providers, and enhanced SMRS providers. The allocation of additional spectrum for Personal Communications Service will only add to the competition that AMSC faces.[16/]

AMSC also faces the prospect of substantial competition in the future from new satellite services. These include the non-voice, nongeostationary MSS systems, Newcomb, Mobile Datacom and the Big LEOs, possibly Ka band MSS systems, and C-band or Ku-band systems providing maritime or other services.[17/]

[16/] AMSC hopes that it will fill a consumer need by providing users of these services with a satellite-based "gap-filler" service, but AMSC's targeting of these customers does not minimize the extent to which AMSC will face competition from those terrestrial service providers. Ground-based service providers have the spectrum and the authority to close those gaps any time they choose to invest in the additional facilities.

[17/] If the Commission does impose spectrum caps on satellite CMRS providers, the cap must be applied to all providers, whether they provide service in spectrum allocated for MSS, Fixed Satellite Service or General Satellite Service.

Further competition will be provided by resellers of AMSC space segment. As discussed above, in order to promote competition, the Commission requires AMSC to make its space segment available on a non-discriminatory basis, including providing access to carriers and customers that build their own hub earth stations.

Since there is no competitive basis for a cap on satellite spectrum, there also is no competitive basis for adopting attribution rules for satellite spectrum. Moreover, any such rules would be extremely harmful to the development of satellite services. As the Commission intended, one of the initial strengths of AMSC was its diverse ownership, including several companies with experience in providing cellular and other mobile services. These companies had the vision and expertise to invest in such a high-risk venture. Without their support, it is unlikely that the U.S. MSS system would have been built. There is no evidence that any of these companies are using their investment in AMSC to secure any anti-competitive advantage; indeed, any such effort would be contrary to AMSC's obligation to provide service on a nondiscriminatory basis. Therefore, to penalize those pioneering companies now by including satellite spectrum in any CMRS spectrum cap would be both bad policy and grossly unfair.[18/]

[18/] Several of the Big LEO applicants include such CMRS providers as Sprint and AirTouch among their investors, and presumably these entities also are likely to be satellite CMRS providers themselves, operating earth stations and reselling space segment of the satellite company in which they have invested. If attribution rules are adopted, fairness dictates that the same rules should apply to earth station operators as would apply to space segment operators.

III. The FCC Should Look at Satellite Applications on an Individual Basis

The Commission's current practice is to consider each application for satellite spectrum on its merits, without any rigid rules prescribing the amount of spectrum available to any one entity. The utility of this practice is demonstrated by AMSC's own recent applications. For instance, AMSC's application to use the lower MSS L-band seeks an assignment of 14 MHz, but in fact, it is unlikely that AMSC will be able to use any more than one or two megahertz of the assigned spectrum after the initial international frequency coordination is completed. Because there is so little usable spectrum that is accessible in the lower MSS L-band, the spectrum cannot be used to establish a competing MSS system.[19/] AMSC, however, is able to add the spectrum efficiently to its first satellite, thus permitting the provision of additional service to the U.S. public. In addition, by gaining access to this new spectrum, AMSC will be able to provide non-preemptible service to public safety users other than aviation safety.

A similar situation applies to AMSC's application to use the former RDSS bands. There, AMSC has shown that it can add the frequencies to its satellites very efficiently and without an adverse impact on the ability of other applicants to go forward with the construction and operation of their systems.

19/ Indeed, no competing applications were filed in response to the Commission's public notice of the acceptance for filing of AMSC's lower MSS L-band application.

In addition, the absence of a cap on satellite spectrum has provided AMSC and others with an incentive to remain active in domestic and international efforts to secure additional spectrum for the MSS industry generally. AMSC needs additional spectrum to expand its capacity and provide service to the large potential market for MSS. With the knowledge that it will be given a fair opportunity to apply for that spectrum and have its case heard by the Commission, AMSC has been willing to participate in a process that also may result in more spectrum being available for AMSC's competitors.

Conclusion

Therefore, based on the foregoing, AMSC respectfully requests that the Commission not impose any limit on the satellite spectrum that a CMRS provider may access.

Respectfully submitted,

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June 20, 1994

CERTIFICATE OF SERVICE

I, Leslie Anne Byers, hereby certify that I have this 20th day of June, 1994, have caused to be hand delivered copies of the foregoing "COMMENTS OF AMERICAN MOBILE SATELLITE CORPORATION" to the following:

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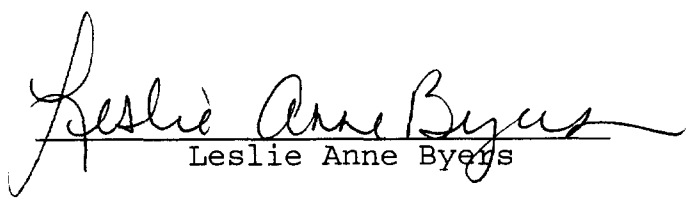

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